

Appl. No. 10/731,724  
Amendment C  
November 28, 2005

### Amended Claims

#### **Claims 1-5 (canceled).**

6. (currently amended) A method for administering a live ~~attenuated~~ bacterial vaccine to a mammal, ~~comprising~~ wherein the method comprises injecting into a submucosal layer of the ~~the~~ [[a]] mammal an immunogenically effective amount of the vaccine ~~a live attenuated bacterium~~.

7. (currently amended) The method according to claim 6, wherein the live ~~attenuated~~ bacterium of the vaccine is selected from the group consisting of *Actinobacillus equuli*, [[A.]] *Actinobacillus pleuropneumoniae*, *Actinomyces pyogenes*, *Bordetella bronchiseptica*, *Brucella abortus*, *Clostridium perfringens*, *Corynebacterium bovis*, [[C.]] *Corynebacterium pseudotuberculosis*, *Erysipelothrix rhusiopathiae*, *Escherichia coli*, *Haemophilus parausuis*, *Leptospira canicola*, [[L.]] *Leptospira hardjo*, [[L.]] *Leptospira icterohaemorrhagiae*, [[L.]] *Leptospira pomona*, *Mycobacterium bovis*, *Mycoplasma bovis*, [[M.]] *Mycoplasma hyopneumoniae*, *Nocardia asteroides*, *Pasteurella haemolytica*, *P. multocida*, *Pseudomonas mallei*, *Rhodococcus equi*, *Salmonella choleraesuis*, [[S.]] *Salmonella dublin*, [[S.]] *Salmonella typhimurium*, *Serpulina hyodysenteriae*, *Staphylococcus aureus*, *Streptococcus agalactiae*, [[St.]] *Streptococcus equi*, [[St.]] *Streptococcus pneumoniae*, [[St.]] *Streptococcus suis*, [[St.]] *Streptococcus uberis*, ~~or *St.*~~ and *Streptococcus zooepidemicus*.

8. (currently amended) The method according to claim 6, wherein the mammal is a horse, ruminant, [[a]] pig, or [[a]] dog.

9. (currently amended) A method for reducing the amount of adverse reactions in a mammal at an injection site of a live ~~attenuated~~ bacterial vaccine, ~~comprising~~ wherein:  
the method comprises administering submucosally the ~~the~~ [[said]] vaccine, whereby the amount of adverse reactions at the injection site is reduced, ~~wherein~~

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the live ~~attenuated~~ bacterial vaccine comprises bacteria that cause abscess formation when administered intramuscularly, and

the reduction of the amount of adverse reactions is measured by the amount or size of abscesses or lesions at the mucosal injection site compared to an ~~[[the]]~~ intramuscular injection site.

10. (currently amended) The method according to claim 9, wherein the ~~[[said]]~~ vaccine is administered into the submucosa of the labiae.

11. (currently amended) The method according to claim 9, wherein the ~~[[said]]~~ live ~~attenuated~~ bacterium of the vaccine is selected from the group consisting of *Actinobacillus equuli*, ~~[[A.]]~~ *Actinobacillus pleuropneumoniae*, *Actinomyces pyogenes*, *Bordetella bronchiseptica*, *Brucella abortus*, *Clostridium perfringens*, *Corynebacterium bovis*, ~~[[C.]]~~ *Corynebacterium pseudotuberculosis*, *Erysipelothrix rhusiopathiae*, *Escherichia coli*, *Haemophilus parasuis*, *Leptospira canicola*, ~~[[L.]]~~ *Leptospira hardjo*, ~~[[I.]]~~ *Leptospira icterohaemorrhagiae*, ~~[[L.]]~~ *Leptospira pomona*, *Mycobacterium bovis*, *Mycoplasma bovis*, *M. hyopneumoniae*, *Nocardia asteroides*, *Pasteurella haemolytica*, ~~[[P.]]~~ *Pasteurella multocida*, *Pseudomonas mallei*, *Rhodococcus equi*, *Salmonella choleraesuis*, ~~[[S.]]~~ *Salmonella dublin*, ~~[[S.]]~~ *Salmonella typhimurium*, *Serpulina hyodysenteriae*, *Staphylococcus aureus*, *Streptococcus agalactiae*, ~~[[St.]]~~ *Streptococcus equi*, ~~[[St.]]~~ *Streptococcus pneumoniae*, ~~[[St.]]~~ *Streptococcus suis*, ~~[[St.]]~~ *Streptococcus uberis*, ~~or St. and Streptococcus zoonoepidemicus.~~